

## THE USE OF TWO SPECIES OF *PARIETARIA* (URTICACEAE) AS FOOD PLANTS BY THE BUTTERFLY *VANESSA ITEA* (FABRICIUS) IN SOUTH-WESTERN AUSTRALIA

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### Abstract

A native food plant, pellitory (*Parietaria debilis* - Urticaceae), is used by the Australian admiral butterfly (*Vanessa itea*) in south-western Australia. In Fremantle, Western Australia, the admiral appears to use the introduced plant *P. judaica*.

### Introduction

The Australian admiral (*Vanessa itea*) is a butterfly with a wide range in Australia, including the east, south and south-west. Common and Waterhouse (1981), the standard reference on Australian butterflies, list three plants in the nettle family (Urticaceae) as the admiral's food plants: *Urtica incisa*, *U. urens* and *Soleirolia soleirolii*. Of those, only *U. incisa* is an Australian native—but even this species is not native to south-western Australia.

The only species in the nettle family native to south-western Australia is pellitory (*Parietaria debilis*), an annual herb that occurs naturally in all Australian States and also occurs widely in the tropics and elsewhere outside Australia (Marchant *et al*, 1987). Gibbs (1980) lists this species as a food plant of the Australian admiral in New Zealand.

*Parietaria judaica* is a perennial species native to western and southern Europe, which has become established in part of Fremantle, near Perth.

### Observations

During a stay on Rottnest Island, near Perth, from 21-23.ix.1990, I found *P. debilis* to be common in eastern and central parts of the island. Under a stand of moonah (*Melaleuca lanceolata*) at the base of Lookout Hill both *P. debilis* and *U. urens* were growing abundantly. Some of the leaves of both species were folded downwards into shelters typical of those made by the young larvae of the admiral butterfly. Two of the shelters on *P. debilis* were examined and found to contain small, dark-grey caterpillars, which appeared to be admiral larvae.

On 3.xi.1991 I inspected specimens of *P. judaica* growing along a limestone wall by a carpark in Nairn Street, Fremantle, and along lanes to the east. Neither *P. debilis* nor *U. urens* was found growing here. No admiral larvae or their shelters were seen, but admiral pupae, mostly empty, were numerous on walls adjacent to the plants, indicating that *V. itea* uses *P. judaica* as a food plant.

## Methods

On 20.ix.1991 Mr Bob Hay and I visited Rottneest Island and dug up 31 specimens of *P. debilis*. Their identity was confirmed by the Western Australian Herbarium (on 17.x.1991: accession no. 02437).

Twenty specimens were taken to the mainland, together with more than a dozen larvae taken from *U. urens* plants growing among the *P. debilis*. The larvae fed voraciously on the *P. debilis*; by 27 September most of the plants were badly eaten, and another sixteen plants were delivered from the island. It soon became apparent that the supply of *P. debilis* would only be enough to sustain a few of the larvae; all but five were removed and placed on *U. urens*, the only food plant readily available.

The other eleven specimens of *P. debilis* dug up on 20 September were given to Rottneest Primary School, together with seven larvae they contained. These larvae were reared on *U. urens* once the supply of *P. debilis* ran out.

## Results

All five larvae that were left on *P. debilis* pupated and emerged as admiral butterflies. The dates of pupation and emergence of two of them were 27.ix.1991 (8.x.1991) and 2.x.1991 (12.x.1991). The other three emerged before 19.x.1991. The emerged *V. itea* appeared to be perfectly healthy, and flew strongly when released.

Six of the seven larvae reared by the school emerged as adult *V. itea*.

## Discussion

These observations establish that *V. itea* successfully uses *P. debilis* as a food plant in south-western Australia, and that the larvae can transfer between *P. debilis* and *U. urens*.

In Fremantle, W.A., *V. itea* apparently uses *P. judaica* as a food plant, and it would be of interest to learn whether *V. itea* uses this plant in other places.

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## References

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